Amendments to the Specification:

Please replace the paragraph at page 7, lines 16-25, with the following amended paragraph.

Optionally, the neural stem cells are also subjected to at least one biological agent that is capable of increasing the number of multipotent neural stem cells. The biological agent is preferably selected from the group consisting of epidermal growth factor (EGF), pituitary adenylate cyclase-activating polypeptide (PACAP), fibroblast ,growth factor (FGF), transforming growth factor ∀-α (TGF∀-α), ciliary neurotrophic factor (CNTF), estrogen, ovarian hormone, prolactin, growth hormone, and insulin-like growth factor 1. The neural stem cells are preferably contacted by the biological agent first to increase the number of neural stem cells before being subjected to the oligodendrocyte promoting factor. Alternatively, the neural stem cells may be contacted by the biological agent and the oligodendrocyte promoting factor concurrently.

Please replace the paragraph on page 9, lines 3-4, with the following amended paragraph.

FIG. 1. A soluble GM-CSF receptor (sGMR∀-α) inhibits the effects of GM-CSF. DIV: days *in vitro*. * $p<0.001$. The experiments were repeated 4 times (N=4).

Please replace the paragraph on page 14, lines 19-33, with the following amended paragraph.

The present invention thus provides a method of increasing oligodendrocyte production from neural stem cells by, using an oligodendrocyte promoting factor, such as GM-CSF. Preferably, neural stem cells are first proliferated or expanded in the absence of the oligodendrocyte promoting factor, and the expanded population of neural stem cells are then incubated with the oligodendrocyte promoting factor to induce oligodendrocyte formation. Any agent capable of expanding neural stem cells can be used in this embodiment. These agents may stimulate

proliferation, inhibit differentiation or prevent cell death of neural stem cells. Exemplary agents include, without being limited to, epidermal growth factor (EGF), pituitary adenylate cyclase-activating polypeptide (PACAP), fibroblast growth factor (FGF), transforming growth factor ~~α~~ (TGF~~α~~), estrogen, ovarian hormone, prolactin, growth hormone, insulin-like growth factor, ciliary neurotrophic factor (CNTF) and bone morphogenetic protein (BMP). Additional agents may be identified by methods known in the art, such as adding a candidate agent to a culture of neural stem cells and assessing the number of neurospheres formed in the presence of the agent (see, e.g., U.S. Pat. Nos. 5,750,376; 5,980,885; 5,851,832).

Please replace the paragraph at page 19, lines 2-30, with the following amended paragraph.

In the examples below, the following abbreviations have the following meanings. Abbreviations not defined have their generally accepted meanings.

°C = degree Celsius

hr = hour

min = minute

μm = micromolar

mM = millimolar

M = molar

ml = milliliter

μl = microliter

mg = milligram

μg = microgram

FBS = fetal bovine serum

PBS = phosphate buffered saline

DMEM = Dulbecco's modified Eagle's medium

~~α~~-MEM = ~~α~~-modified Eagle's medium

MHM = media hormone mix

GM-CSF = granulocyte-macrophage colony stimulating factor

G-CSF = granulocyte colony stimulating factor

IL-3 = interleukin 3

IL-5 = interleukin 5

EGF = epidermal growth factor

PDGF = platelet derived growth factor

GalC = galactocerebroside

MBP = myelin basic protein

T3 = triiodothyronine

CNTF = ciliary neurotrophic factor

DIV = days in vitro

Please replace the paragraph spanning page 25, line 25 to page 26, line 2, with the following amended paragraph.

To determine if the presence of GM-CSF during primary neurosphere formation impacts fate determination of neural stem cells, primary neurospheres were generated in either EGF alone, EGF plus GM-CSF, or EGF plus T3 as described in Example 3. The primary spheres were then dissociated and plated on poly-L-ornithine coated coverslips in 24-well plates at a density of 200,000 cells/well in 1 ml of MHM per well, and allowed to differentiate for 5 days. At the end the differentiation period, the cells were fixed with 4% paraformaldehyde and immunostained for the mature oligodendrocyte marker MBP, the neuronal marker ~~3-tubulin~~ β-tubulin, and Hoechst. The total number of live cells, evidenced by Hoechst stain, were counted as well as the immunostained cells. The results are shown in FIG. 6.